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MARSHALL STAR

In This Week's Star ⊟ (Click to Expand)

NASA Robotic Lander Test Flight Nov. 4 Will Aid in Future Lander Designs

By Kim Newton

NASA will conduct a 100-foot robotic lander altitude test flight Nov. 4 to mature the technology needed to develop a new generation of small, smart, versatile robotic landers capable of achieving scientific and exploration goals on the surface of the moon, asteroids or other airless bodies.

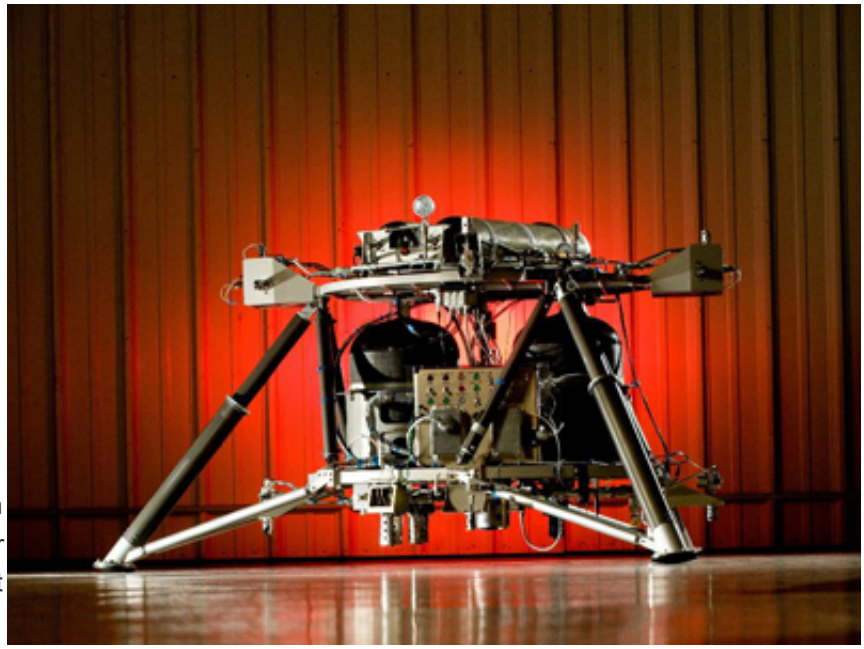

Image right: Mighty Eagle Robotic Lander Prototype (NASA/David Higginbotham)

The test will begin between 10:30-11 a.m. CDT and will air live on NASA Television's Education Channel and the agency's website. The outdoor test will occur at the U.S. Army's Redstone Test Center on Redstone Arsenal and is weather dependant.

The lander prototype will perform an autonomous hover test, flying up to 100 feet and then translate, or move sideways, to perform a controlled, safe landing 30 feet away from the launch pad. The lander, dubbed Mighty Eagle, is fueled by 90

percent pure hydrogen peroxide and receives its commands from an onboard computer that activates its onboard thrusters to carry it to a controlled landing using a pre-programmed flight profile. This series of tests demonstrate the test article's capability to perform an autonomous descent and landing, and are being used to checkout landing control algorithms for the next generation of lander missions.

For NASA TV streaming video, downlink and scheduling information, visit http://www.nasa.gov/ntv. The test also will be webcast live via Ustream at http://www.ustream.tv/channel/nasa-msfc.

Newton is a public affairs officer in the Office of Strategic Analysis & Communications.

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Marshall Experts, Industry, Military and Academia Share Perspectives at Wernher von Braun Memorial Symposium

Discussing NASA's exploration roadmap during an Oct. 25 panel session at the fourth annual Wernher von Braun Memorial Symposium are Deputy Associate Administrator, Exploration Systems Development Division Dan Dumbacher, left; Space Launch System Program Manager Todd May, center; and Orion Mulit-Purpose Crew Vehicle Program Manager Mark Geyer. The event, held at the Chan Auditorium at UAHuntsville Oct. 24-26, featured a report from NASA Headquarters by NASA Associate Administrator Christopher Scolese and an International Space Station update by NASA Associate Administrator for Human Exploration and Operations William Gerstenmaier. Panel topics included energizing commercial space, integrating robotic and human exploration, the National Institute of Rocket Propulsion Systems, military space initiatives and space policy. The symposium was organized by the American Astronautical Society in conjunction with UAHuntsville, the Huntsville National Space Club and the Marshall Space Flight Center. (MSFC/Ray Downward)

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Successful Launch Sets Stage for Soyuz Flight

NASA news release

The following is a statement from Bill Gerstenmaier, associate administrator for Human Exploration and Operations at NASA Headquarters, on the Oct. 30 launch of the Progress 45 spacecraft to the International Space Station. The rocket lifted off from the Baikonur Cosmodrome in Kazakhstan at 5:11 a.m. CDT.

Image right: The unpiloted ISS Progress 45 cargo craft launches from the Baikonur Cosmodrome in Kazakhstan. (NASA TV)

"We congratulate our Russian colleagues on Sunday's successful launch of ISS Progress 45, and the spacecraft is on its way to the International Space Station. Pending the outcome of a series of flight readiness meetings in the coming weeks,

this successful flight sets the stage for the next Soyuz launch, planned for mid-November. The December Soyuz mission will restore the space station crew size to six and continue normal crew rotations."

For more information about the space station, visit http://www.nasa.gov/station.

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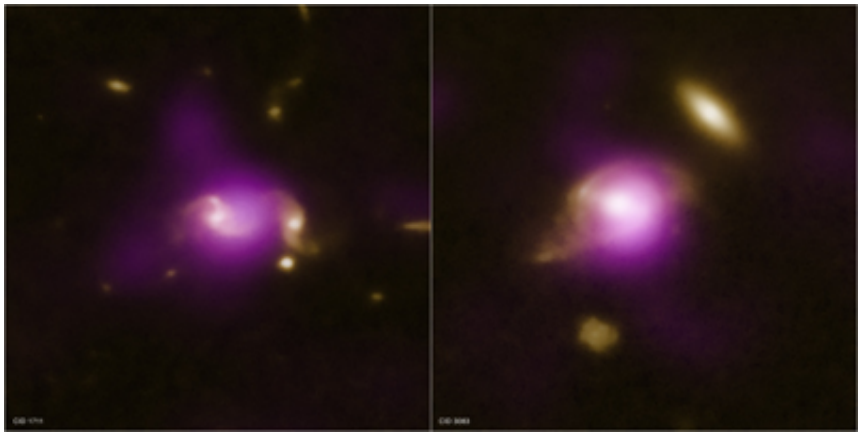
Close Encounters of the Galactic Kind

From www.nasa.gov



Astronomers have used a large survey to test a prediction that close encounters between galaxies can trigger the rapid growth of supermassive black holes. Key to this work was the Marshall Space Flight Center-managed Chandra X-ray Observatory telescope's unique ability to pinpoint actively growing black holes through the X-rays they generate.

Image left: Composite image shows a pair of galaxies undergoing a close encounter. (X-ray: NASA/CXC/IPMU/J.Silverman et al; Optical: NASA/STScI/Caltech/N.Scoville et al.)

The researchers looked at 562 pairs of galaxies ranging in distances from about 3 billion to 8 billion light years from Earth. They found that the galaxies in the early stages of an encounter with another were more likely than isolated, or "lonelier" galaxies to have actively growing black holes in their cores.

These two composite images (see photo) show a sample of the pairs of galaxies that are undergoing close encounters in the survey. In these images, the data from the observatory are shown in purple and the Hubble Space Telescope data are in gold. In both images, the point-like X-ray source near the center is generated by gas that has been heated to millions of degrees as it falls toward a supermassive black hole located in the middle of its host galaxy. The other faint X-ray emission may be caused by hot gas associated with the pair of galaxies.

The authors of the study estimate that nearly one-fifth of all moderately active black holes are found in galaxies undergoing the early stages of an interaction. This leaves open the question of what events are responsible for fueling the remaining 80 percent of growing black holes. Some of these may involve the late stages of mergers between two galaxies. Less violent events such as gas falling in from the halo of the galaxy, or the disruption of small satellite galaxies are also likely to play an important role.

The survey used in this research is called the Cosmic Evolution Survey, which covers 2 square degrees on the sky with observations from several major space-based observatories including Chandra and Hubble Space Telescope. Accurate distance information about the galaxies was also derived from optical observations with the European Southern Observatory's Very Large Telescope. The researchers compared a sample of 562 galaxies in pairs with 2,726 solo galaxies to come to their conclusions.

A paper describing this work has been accepted for publication in The Astrophysical Journal. The study was led by John Silverman from the Institute for the Physics and Mathematics of the Universe at the University of Tokyo in Japan. There are 54 co-authors from various institutions around the world.

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Marshall Center celebrates Safety & Wellness Day

Former NASA astronaut and space shuttle pilot Robert Crippen visited the Marshall Space Flight Center Oct. 26 as part of the center's 2011 Safety & Wellness Day events. Crippen spoke to team members in Morris Auditorium about safety in the workplace and about his experiences piloting STS-1, the first shuttle flight, and commanding three subsequent shuttle missions. Other Marshall Safety & Wellness Day events included a 5K run, a health walk and a Health & Safety Expo. Center organizations also held their own safety- and health-related team activities to mark the annual NASA reminder to commit to safety every day -- in the workplace and at home. (Emmett Given/MSFC)

Representatives from Safe State Environmental Consultation Program hand out information packets to Marshall Center team members at the Health & Safety Expo in Activities Building 4316. Safe State was one of 68 area businesses participating at the expo. (Ray Downward/MSFC)

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Birmingham, Bessemer Students Have Live 'Space Chat' with Space Station Commander

More than 300 students from Birmingham and Bessemer city schools chatted live with Expedition 29 Commander Mike Fossum as he circled the Earth aboard the International Space Station on Oct. 21.

Image right: Expedition 29 Commander Mike Fossum, on screen, talks to Birmingham and Bessemer students from kindergarten to 12th grade about life, work and research in space. (MSFC/Angela Storey)

U.S. Rep. Terri Sewell of Alabama hosted the Expedition 29 in-flight educational event, called "To Infinity and Beyond: A Day with NASA Astronauts," at George Washington Carver High School in Birmingham. Kindergarten to 12th graders got the opportunity to ask Fossum questions about life, work and research in space. The event was designed to inspire and educate a diverse group of students about careers and opportunities in science, technology, engineering and math, also known as STEM.

Image left: More than 300 students from Birmingham and Bessemer city schools gathered at George Washington Carver High School in Birmingham to speak with astronaut Mike Fossum aboard the International Space Station on Oct. 21. (MSFC/Angela Storey)

For NASA TV downlink, schedule and streaming video information, visit http://www.nasa.gov/ntv. For information about NASA's education programs, visit http://www.nasa.gov/education.

Image right: U.S. Rep. Terri Sewell of Alabama, left, host of the in-flight educational event, welcomes students as Marshall Center Deputy Director Gene Goldman looks on. (MSFC/William Robertson)

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Marshall Spotlights NASA's Mission in Relocated Public Entrance at U.S. Space & Rocket Center

The public entrance at the U.S. Space & Rocket Center has relocated to the original museum entrance behind the A-12 Blackbird aircraft and adjacent to the IMAX Theater. A section of the entrance has been allotted for NASA's and Marshall Space Flight Center's Visitor Information Center, spotlighting current roles and missions.

Image left: The Visitor Information Center at the U.S. Space & Rocket Center's entrance spotlights NASA's and the Marshall Space Flight Center's current missions and goals. (MSFC/Daniel McFall)

The change will not affect any special events held in the Saturn V hall of the museum's Davidson Center for Space Exploration.

Guests are asked to park in the east parking lot. This is the first parking lot on the left.

For more information about the Space & Rocket Center, visit http://www.ussrc.com/.

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Huntsville International Airport Director of Marketing to Speak at Nov. 10 Marshall Association Luncheon

Barbie Peek, director of marketing at the Huntsville International Airport, will speak at the Marshall Association luncheon

Nov. 10 from 11 a.m. to 1 p.m. at the Redstone Officers' and Civilians' Club on Golf Course Road. She will discuss ongoing changes at the airport.

Lunch is $9 for members and nonmembers. To RSVP, contact Janet Anderson, association vice president for communications, at 544-6162 or at janet.l.anderson@nasa.gov by Nov. 8.

The association is a professional, employee service organization at the Marshall Space Flight Center. Civil service employees and contractors at the center can learn more about the association here.

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Obituaries

James Snoddy, 82, of Huntsville died Oct. 19. He retired from the Marshall Center in 1986 as a quality assurance specialist.

Rodell Thacker, 81, of Athens died Oct. 19. He retired from the Marshall Center in 1987 as a motion picture production specialist. He is survived by his wife, Sarah Thacker.

Norman L. Cropp, 80, of Huntsville died Oct. 21. He retired from the Marshall Center in 1995 as a program analyst. He is survived by his wife, Edith Cropp.

Novelene C. Freeman, 86, of Huntsville died Oct. 24. She retired from the Marshall Center in 1972 as a supervisory accountant.

Find this article at:

http://www.nasa.gov/centers/marshall/about/star/index.html